Agenda

Time	Session
9:00-9:15 am	**Welcoming remarks** (co-Chairs Clive Svendsen and Bill Murphy)
9:15-9:45 am	**Cerebral organoids in a dish: progress and prospects**. Arnold Kriegstein, Eli and Edythe Broad Center of Regeneration Medicine and Stem Cell Research
9:45-10:15 am	**Functional cortical neurons and astrocytes from human pluripotent stem cells in 3D cultures**. Sergiu Pasca, Stanford University
10:15-10:30 am	Break
10:30-11:00 am	**Using iPSC derived organoids to understand phenotypic variability in Rett syndrome.** Jeff Neul, University of California, San Diego
11:00-11:30 pm	**A 3D human neural cell culture system for modeling Alzheimer's disease**. Doo Yeon Kim, Massachusetts General Hospital, Harvard Medical School
11:30-12:30 pm	Lunch on your own
12:30-1:00 pm	**Brain region specific organoids & zika disease modeling.** Guo-Li Ming, Johns Hopkins University
1:00-1:30 pm	**Human induced pluripotent stem cell microphysiological systems for CNS disease modeling**. Bill Murphy, University of Wisconsin
1:30-2:00 pm	**Eye on a chip and 3-D printing of eye tissues.** Kapil Bharti, National Eye Institute, NIH.
2:00-2:15 pm	Break
2:15-2:45 pm	**ALS on a chip – the importance of neurovascular communication for disease modeling**. Clive Svendsen, Cedars Sinai
2:45-3:15 pm	**Human neurovascular unit on a chip: metabolic consequences of inflammatory disruption of the blood-brain barrier and the possibility of diurnal, in vitro humoral modulation of neuronal activity.** John Wikswo, Vanderbilt University
3:15-4:00 pm	**Industry Panel.** Round table discussion of how to bring organoids and MFDs to the scientific community
4:00-5:30 pm	Poster Session
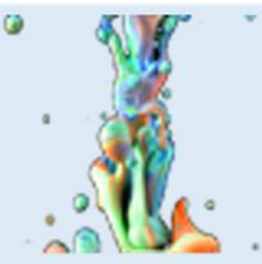
3D CNS Disease Modeling Workshop
November 11, 2016,
Manchester Grand Hyatt, San Diego CA

National Institute of
Neurological Disorders
and Stroke

Poster Presenters

C9ORF72 in 3D: a novel dimension in FTD-MND iPSN cultures

Veronica Porterfield[1], Yalin Wang[2], Qing Zhong[1], Erin Pennock Foff[1]

[1]Department of Neurology, [2] Advanced Microscopy Facility, University of Virginia, Charlottesville, VA, USA

Brain-mimetic hydrogels to study development of glioblastoma resistance to EGFR inhibition

Weikun Xiao, Rongyu Zhang, Songping Sun, Arshia Ehsanipour, Christopher M. Walthers, Jesse Liang, Lisa Ta, David A. Nathanson, Stephanie K. Seidlits

Department of Bioengineering, University of California, Los Angeles, Los Angeles, CA, USA

Neural stem cell proteostasis is rewired upon differentiation and aging

T. Kelly Rainbolt[1], Willianne I. Vonk[1,2], Anne Brunet[3], Judith Frydman[1]

[1]Department of Biology, [3]Deparment of Genetics, Stanford University, Stanford, CA, USA
[2]University Medical Center Utrecht University, The Netherlands

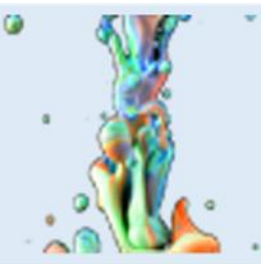## Hyaluronic acid hydrogels for central nervous system regenerations

Christopher M. Walthers, Jesse Liang, Arshia Ehsanipour, Stephanie K. Seidlits

Department of Bioengineering, University of California, Los Angeles, Los Angeles, CA, USA

Forebrain organoids generated using mini-bioreactors for modeling Zika virus-induced microcephaly and drug testing

Xuyu Qian, Ha Nam Nguyen, Peng Jin, Wei Zheng, Hengli Tang, Hongjun Song, Guo-li Ming

Institute for Cell Engineering, Johns Hopkins University School of Medicine, Baltimore, MD, USA

An efficient inducible allele-specific epigenetic dCas9 therapy system for Huntington's disease

Anvita Komarla[1,2], Peter Deng[1,2], Audrey Torrest[1], Joseph Aprile[1], Whitney Cary[1], Josh R. Gutierrez[1], William Gruenloh[1], Geralyn Annett[1], Teresa Tempkin[3], Vicki Wheelock[3], David J. Segal[2], Jan A. Nolta[1], Kyle D. Fink[1]

[1]Stem Cell Program and Institute for Regenerative Cures, [3]Department of Neurology, University of California Davis Health Systems, Sacramento, CA, USA
[2]Genome Center, MIND Institute, and Biochemistry and Molecular Medicine, University of California, Davis, CA, USA

Modeling glioblastoma through cancer stem cell organoids

Christopher G. Hubert, Maricruz Rivera, Lisa C. Spangler, Qiulian Wu, Stephen C. Mack, Briana C. Prager, Marta Couce, Roger E. McLendon, Andrew E. Sloan, Jeremy N. Rich

Department of Stem Cell Biology and Regenerative Medicine Lerner Research Institute, Cleveland Clinic, Cleveland, OH, USA

A Human Neuronal Model of Tuberous Sclerosis

John D. Blair, Dirk F. Hockemeyer, Helen S. Bateup

[1]Department of Molecular and Cell Biology, University of California, Berkeley, Berkeley, CA, USA

A microfluidic three-dimensional (3D) organ-on-a chip array for blood-brain barrier (BBB) models

Se Hoon Jeong[1], Sunja Kim[2], John Buonocore[3], Jaewon Park[4], C. Jane Welsh[2], Jianrong Li[2], Arum Han[1,3]

[1]Department of Biomedical Engineering, [2]Department of Veterinary Integrative Biosciences and [3]Department of Electrical & Computer Engineering, Texas A&M University, College Station, TX, USA
[4]South University of Science and Technology of China, Shenzhen, China

Modeling neuro-immune interactions in health and disease, using organotypic human cultures

Julien Muffat*, Yun Li*, Bingbing Yuan, Attya Omer, Sean Corcoran, Grisilda Bakiasi, Li-Huei Tsai, Patrick Aubourg, Richard Ransohoff, Rudolf Jaenisch
*co-authors

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